



Data Consolidation and Application Optimization (DCAO) Organization

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Mr. John Pope

DCAO Director
Space and Naval Warfare Systems Command

House Pool vs. Community Pool



House Pool

- ▼ Many pools in the neighborhood
- ▼ Limited uses
- ▼ Varying levels of security
- ▼ Each household pays for construction, insurance maintenance, security, etc.
- ▼ Low utilization
- ▼ High energy use

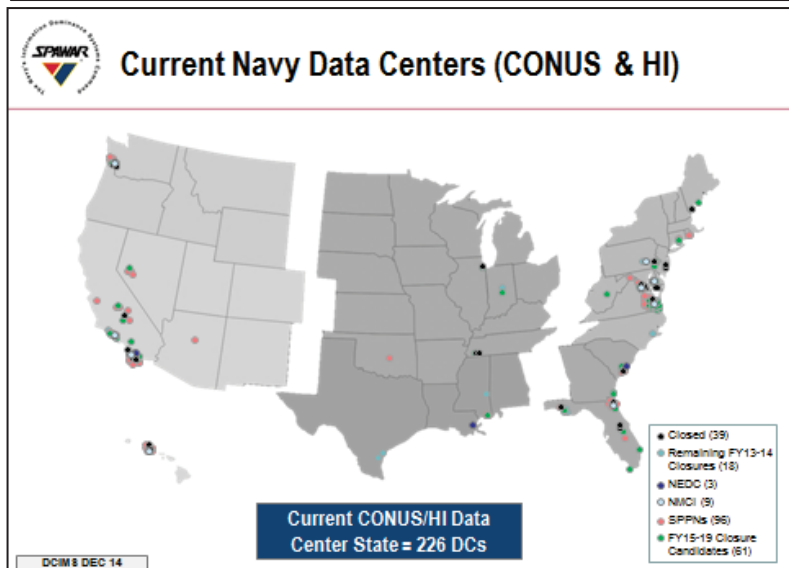
Community Pool

- ▼ One pool for many houses
- ▼ Better amenities and security
- ▼ Various membership levels
- ▼ Lower, shared costs
- ▼ High utilization
- ▼ Efficient energy use



DCC Challenge

- ▼ Warfighters require world-wide, secure, reliable, and timely information.
- ▼ Multiple independent data centers grew up organically to support the warfighter. Lack of configuration management, difficult to protect, multiple legacy applications and inefficient operations.
- ▼ Federal Data Center Consolidation Initiative FDCCI - consolidate data centers and find security and savings.
- ▼ Navy savings potential analysis:
 - \$1.8B removed from Navy budget (FY12-FY17)
 - \$0.5B of savings provided to SPAWAR to execute consolidation

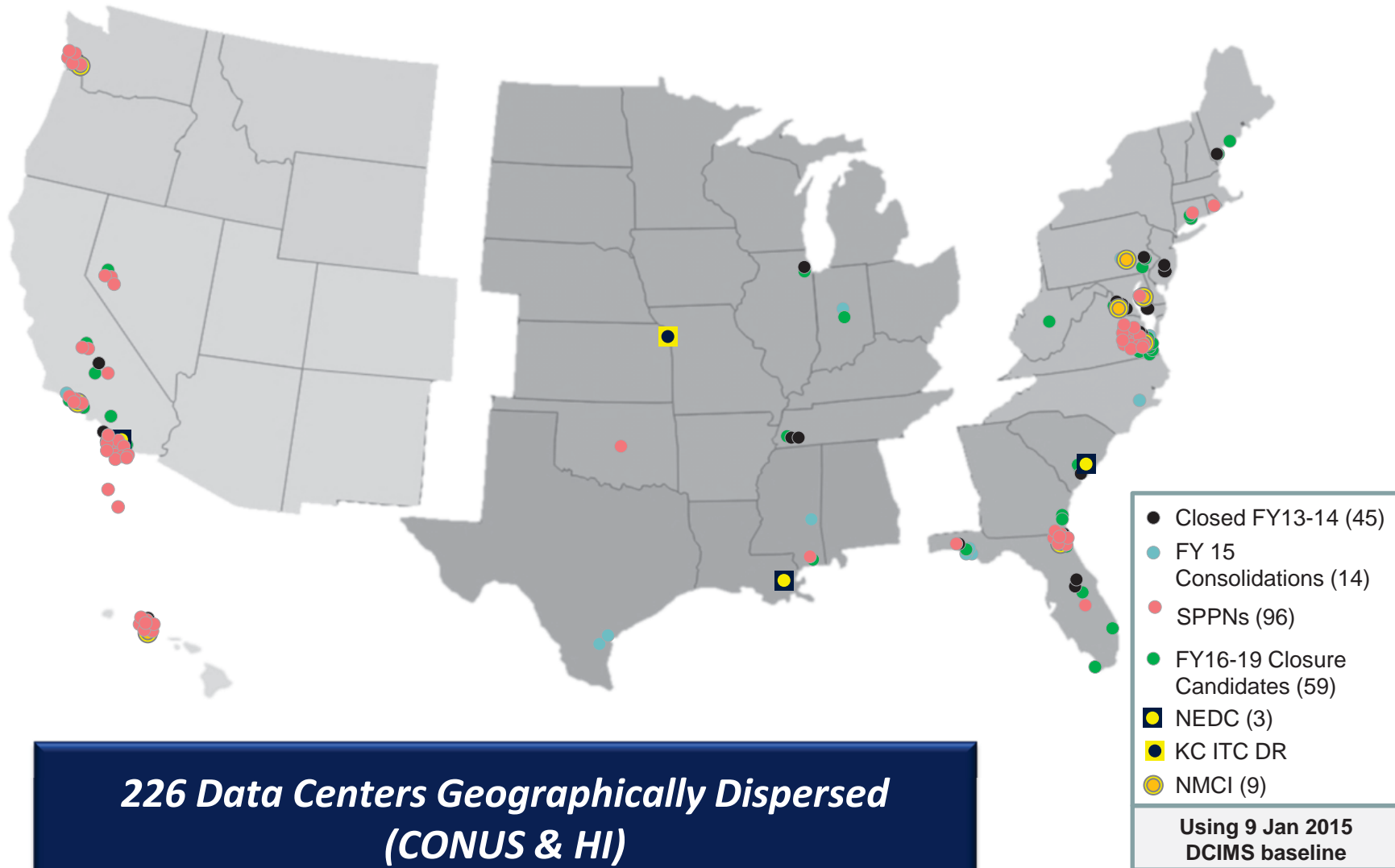




DCAO Background

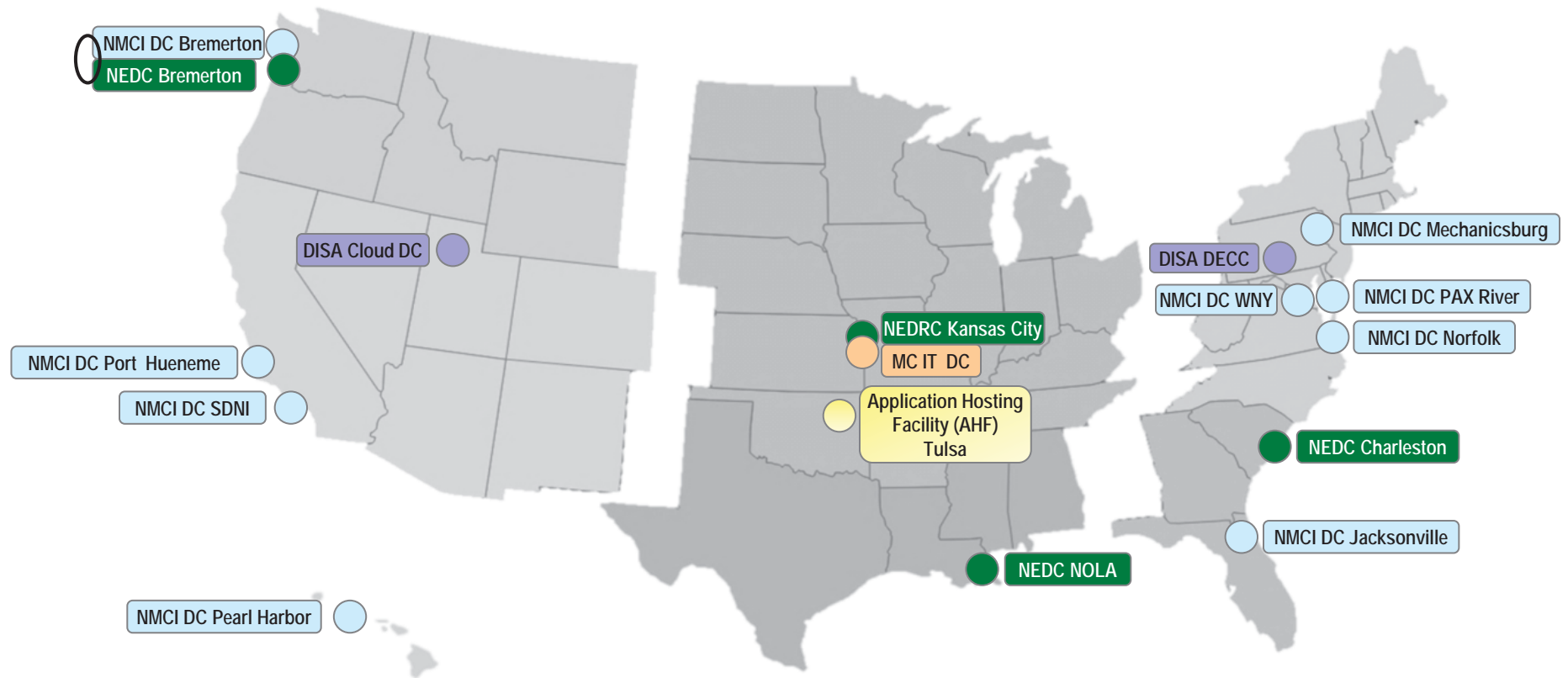
- ▼ Nov 2011: SECNAV designated SPAWAR as Navy's DCC execution agent and technical authority
 - Established DCC Task Force to consolidate >65 Navy data centers into Navy Enterprise Data Center (NEDC) sites between FY12-FY17
- Primary goal: To realize cost savings through efficient application hosting and operations*
- ▼ Oct 2013: DCC R3B directed DCC governance, oversight and strategy
- ▼ May 2014 PE EXCOMM: Set target to reduce the number of Navy data centers from 226 to 20 or fewer and expanded the hosting blend to a mix of 75% commercial and 25% government hosted sites
 - Critical factor is to virtualize and automate systems to achieve \$1.3B in savings
- ▼ Oct 2014 NEIGB: Approved creation of West Coast NEDC at Bremerton
- ▼ 15 Dec 2014: DOD CIO memo addressing Commercial Cloud Computing Services

Where We Started.....





FY19 End State: Navy App Hosting Sites



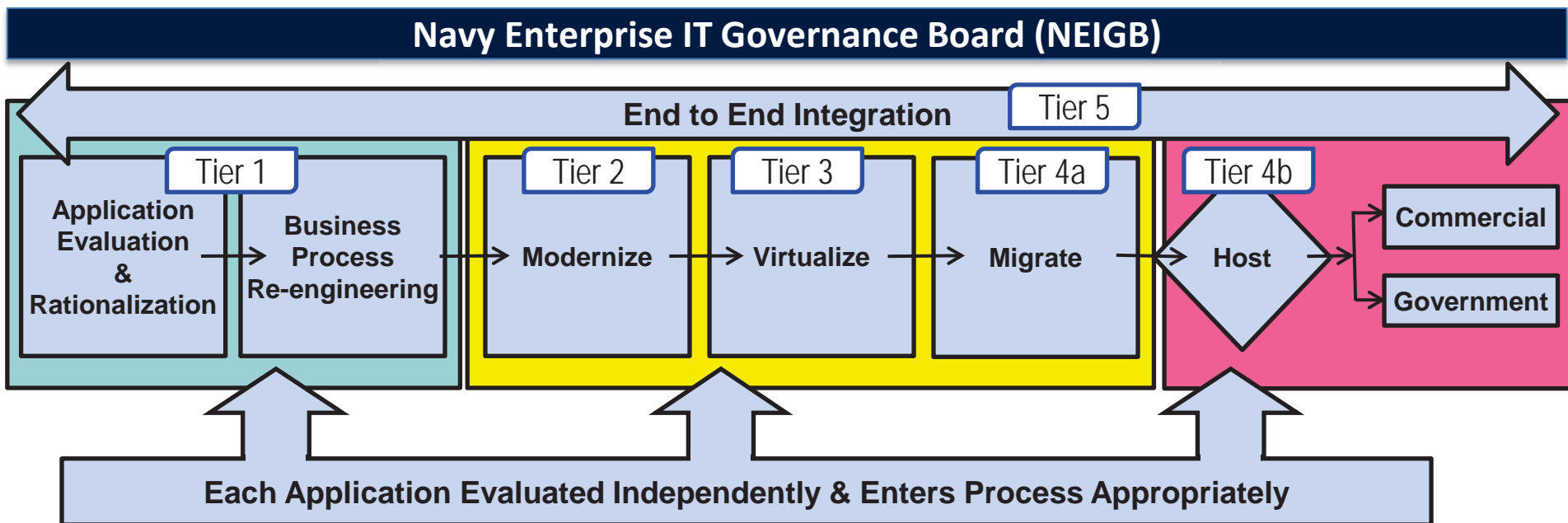
					TOTAL
DoD CDCs	Commercial Sites	NEDCs	NMCI IPNs	MC IT DC NEDRC KC	20

Locations Tentative

Locations TBD

20 Candidates at NEDC (CDC level) & IPN Levels
Focus on CONUS & HI sites

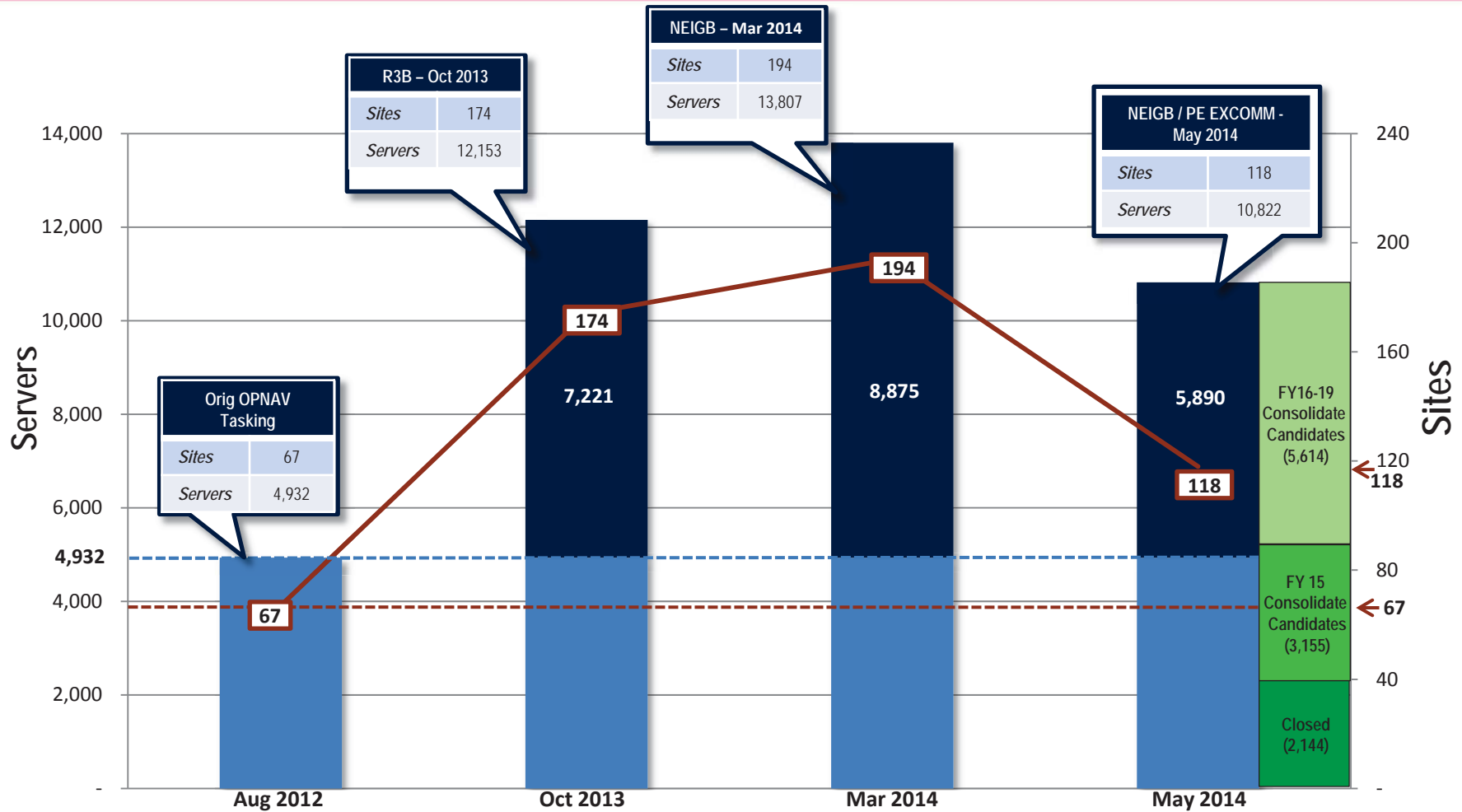
DCC Process Flow & Tiers



Data Center Consolidation Process Follows These Steps

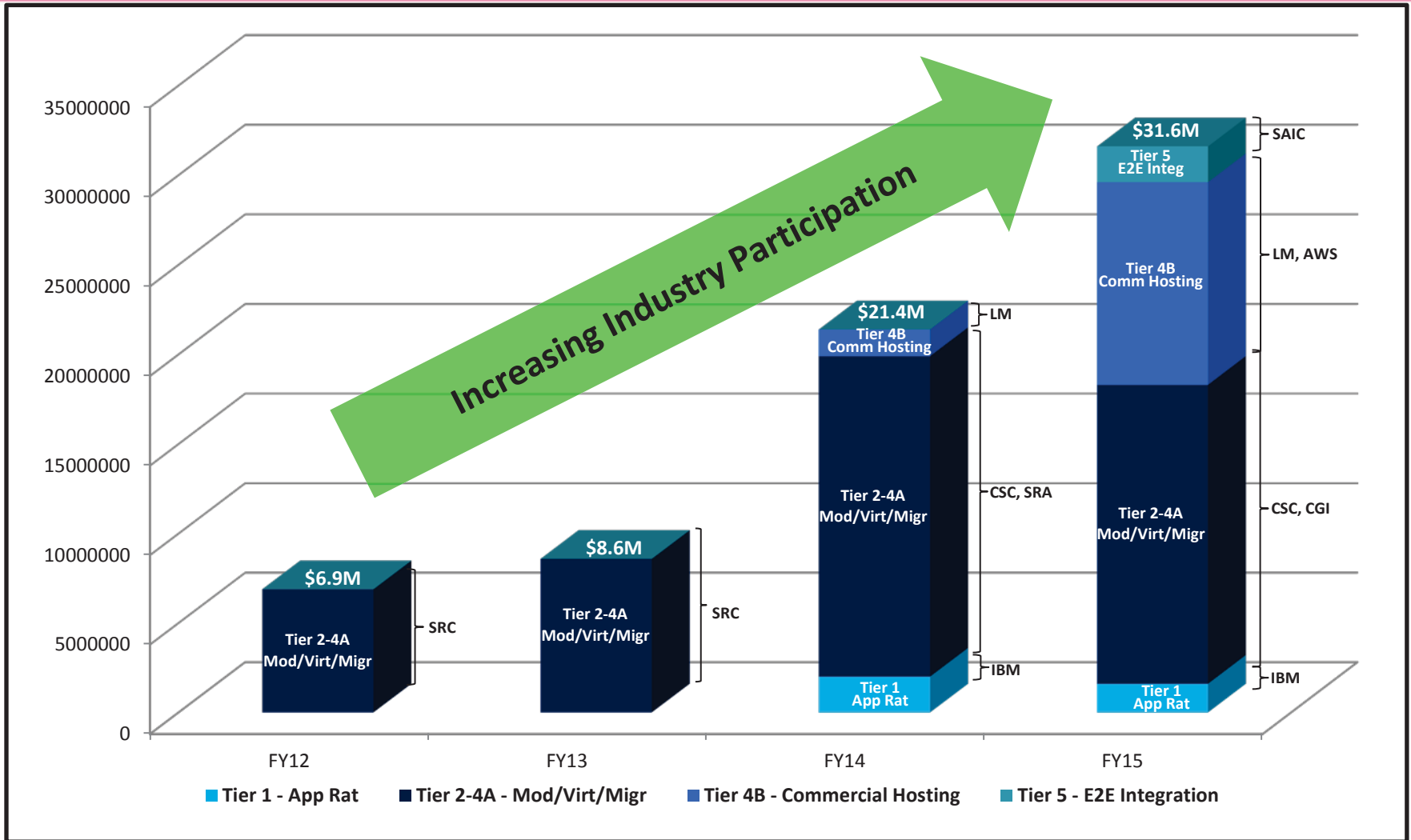


DCAO Site/Server Requirement Changes



May 2014 NEIGB/PE EXCOMM locks down DCC Baseline

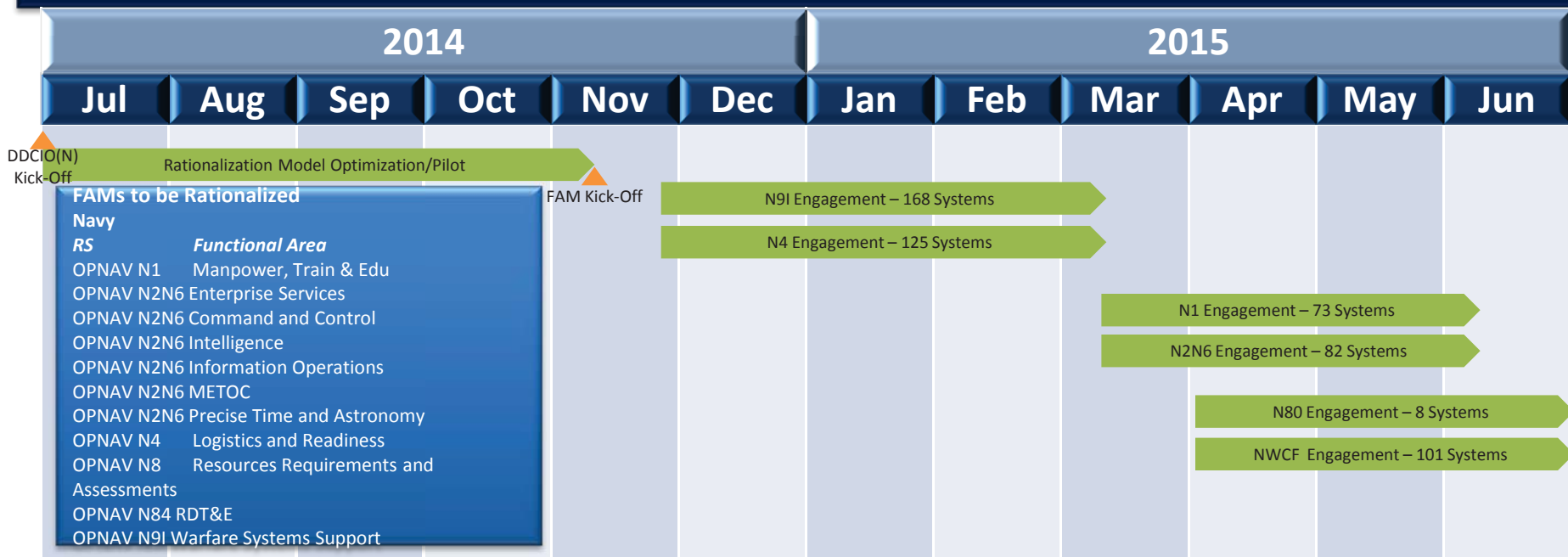
DCAO Tier Contracts



NGEN Contract Partnership: Next step in increasing Industry Partnership

Rationalization Efforts

Rationalization Timeline



Next Steps

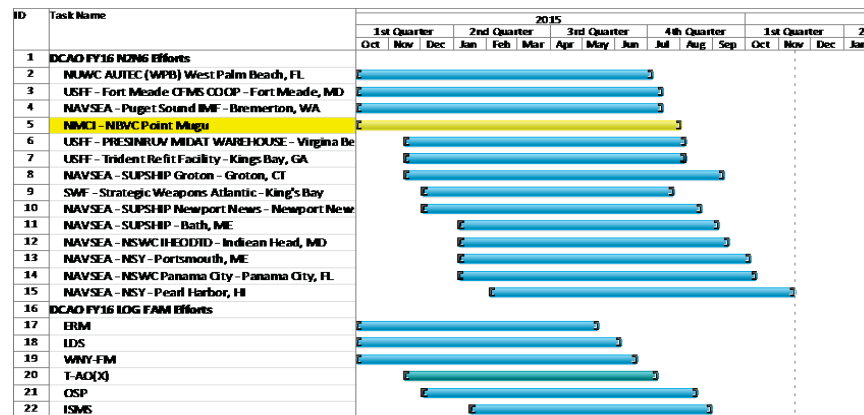
- ❑ Resource Sponsors/Functional Leads discuss outcome dispositions internally and develops plan to drive change
- ❑ Resource Sponsors/Functional Leads adjudicate portfolio issues with DDCIO (N) and present modernization roadmap plan (to include cost, risk, site migration and conformance with technical standards)
- ❑ NEIGB approval / disapproval of final roadmaps
- ❑ DCAO incorporates results into DCC Integrated Master Schedule (IMS)

Navy DCC IMS – First Pass

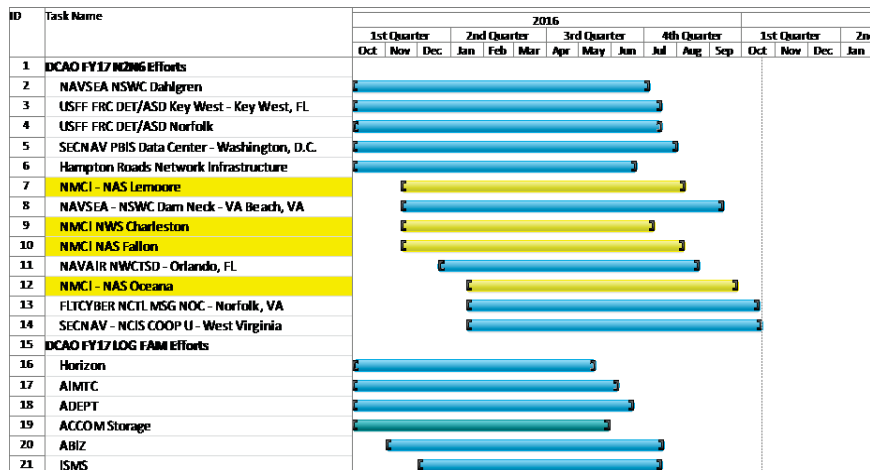
FY 15 IMS



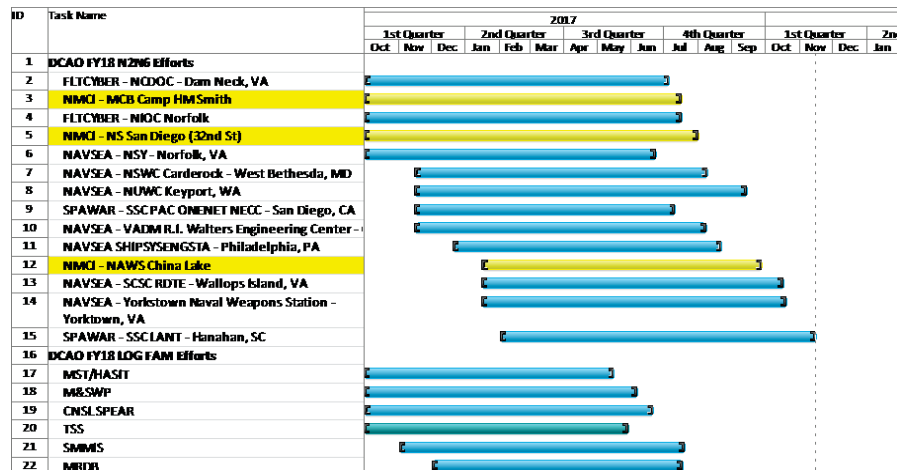
FY 16 IMS



FY 17 IMS



FY 18 IMS



Transition Strategies



NEDC San Diego

- ▼ Re-host, not re-engineer
- ▼ Rebuild systems in a Navy Enterprise Data Center (NEDC) **virtualized environment** (*first choice*)
- ▼ Virtualize physical servers (*second choice*)
- ▼ Transition physical servers (*final option*)
- ▼ **Re-use hardware and software assets** from consolidated sites
- ▼ **Improve Navy cyber security posture** – meet or exceed IA controls
- ▼ Better **position programs without a COOP environment to add this capability**

What We've Found

▼ Inefficient use of resources

- Low server utilization
- Overuse of power consumption

▼ Old generations of software and hardware

▼ Poor system hygiene

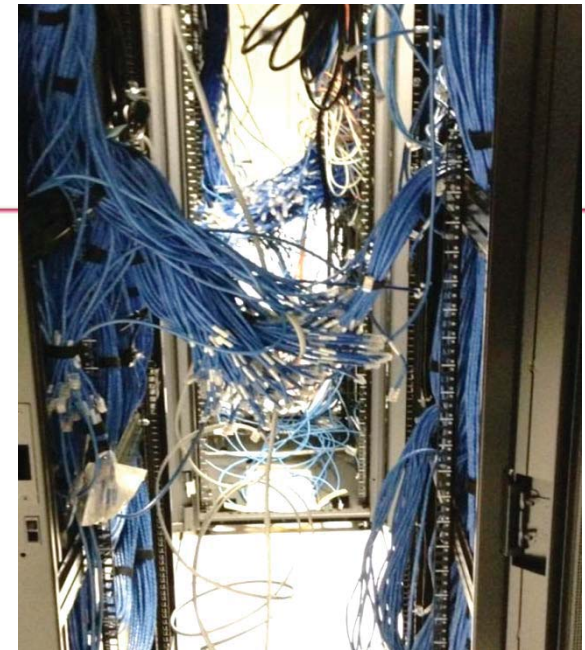
- System administrators not performing required scans and implementing vulnerability mitigations
- Three sample sites revealed an average of 4 CAT Is, and 20 CAT IIs

▼ Certification and Accreditation challenges

- Upgraded applications at many of the legacy sites that were not reflected in their legacy accreditations

▼ Redundant applications with similar functionality

- Some systems we transitioned had fewer than 10 users; most had fewer than 100 dedicated users



Navy Commercial Hosting Next Steps

▼ Focus / Risk Areas:

■ Contracting

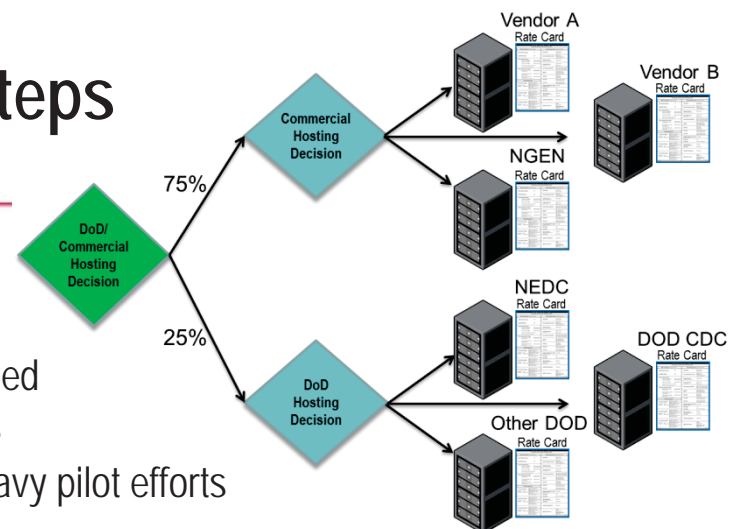
- Contracting language for cloud services needs to be developed
 - DoD draft template language under review by DoN CIO, PEO EIS
- Commercial cloud contracting experience being grown via Navy pilot efforts

■ Data

- Component accepts risk for classifying data as cloud ready
 - Requires classification of data as “ready for cloud”, “study more”, & “no”
- Dependent on additional DoD guidance released 12 Jan 2015.
 - DoD Cloud Computing Security Requirements Guide

■ Process

- Components may host Unclassified DoD Information if publically released on FedRAMP approved cloud services
 - Security standards (PII, FOUO)
- Issues to be resolved include governance, approval process, amount of oversight, and who provides oversight
 - Per DoD CIO, Cloud services BCA must be conducted with DISA as alternative
- DoN CIO icw DDCIO-N & DDCIO-MC will develop and publish specific guidelines



DCAO Key Challenges

- ▼ Budget Pressure Results
- ▼ CyberSecurity
- ▼ Cost / Schedule Control
- ▼ Communications
- ▼ Policy
- ▼ Cultural
- ▼ Technical



Q&A

